

PRL Update Instructions

Please note: These instructions pertain to the IPG-77xx and IPG-80xx products with firmware 02D.24 or newer.

Systech units are shipped from the factory with a carrier specified PRL. During Over The Air (OTA) activation, a unit may pull a new PRL from the carrier network. If the "p" option is set in the Cellular Connection Monitor, the unit will check for an updated OTA PRL if it fails to connect to the network. Utilizing SOUP a unit can be triggered to check for an OTA PRL update.

It is also possible to manually load a PRL on the unit. This can be done using SOUP but can also be done locally over the Ethernet. This might especially be necessary if the unit is unable to establish a connection with the currently loaded PRL. This document describes how to locally load a PRL on the unit.

In order for a Sprint or Verizon module to activate, provision, or re-activate, it must be in a "home territory". You can check the current roaming state on the Cellular Settings page in the web browser interface. The IPG77xx Sprint units require a unique SPC or Service Programming Code (aka MSL - Master Subsidy Lock or OTKSL - One Time Key Subsidy Lock) Code from your Sprint Service provider. The SPC code for the IPG/8000 series using Sprint or Verizon is always 000000. The cellular module uses the PRL or "Preferred Roaming List" to decide which towers to give preference to. If you are attempting to activate, provision or re-activate a unit, it must be in it's home territory. If the unit is not in a home territory you can upload a new PRL to the device which may make activation, reactivation or provisioning possible. This can be accomplished via the Ethernet interface on the IPG using our utility called "r4000."

General Information on PRLs can be located here: <http://www.roamingzone.com/prl/>

To update the PRL:

- You will require a Windows based computer connected via Ethernet cable to the Systech IPG. You will need to set your computer's IP to 192.168.1.91. Instructions for changing your computers IP can be found here: [Windows XP, Vista, 7 or 8](#)
- Login to the IPG's web interface. Open up a browser and point it to 192.168.1.90
- Click Cellular Settings on the left side. You will be prompted for a username and password.
- On the Cellular Settings Screen make note of the current PRL ID. You can find this in the main table on the right hand side. For example:

Preferred Roaming List ID (PRL ID)	61090
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- Visit <http://www.systech.com/prl/> and download the r4000 folder. This includes the r4000 utility and two PRL files.
- Place the entire r4000 folder under your C:\ drive (or somewhere of your choosing).

- Open up a command prompt (start>run type in cmd then <enter>).

```
Administrator: Command Prompt
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.
C:\>
```

- Navigate to the location you placed the r4000 folder.

```
Administrator: Command Prompt
C:\>cd r4000
C:\r4000>
```

- Enter the following command then hit enter. **Note:** for the command to work you'll need to modify or be aware of the sections we've pointed to in the following screenshot.

C:\r4000>r4000 192.168.1.90 -A <password> -m 000000 -w sprint-prl-60774.prl

```
Select Administrator: Command Prompt
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.
C:\>cd r4000
C:\r4000>r4000 192.168.1.90 -A <password> -m 000000 -w sprint-prl-60774.prl
```

- The first arrow indicates the Systech's IP address. By default it's set to 192.168.1.90.
- The second arrow is the administrative password on the Systech IPG unit. You will need to use the password for your device.
- The third arrow is the PRL file you want to upload to the Systech device. In this example we are uploading a Sprint PRL file. The file name will differ if you are attempting to upload to a Verizon unit. We've included two PRL files (1 for Sprint 1 for Verizon) inside the r4000 folder. You are welcome to try using these and/or contact your Cellular provider for the specific PRL file based on your location.
- You should see a progress screen "waiting for ack from device."

```
===== TASK: UPLOAD PRL file to device. =====
Uploading file to device...Done with 6592 bytes!
File length: 6592 bytes.
Time: 0.00 sec, at 6592000016.64 bytes/sec.
```

- After some time has passed you should get a success screen. You can confirm the PRL has been updated by going back to the Cellular Settings page in the browser interface. It should list a new PRL number in the main table.

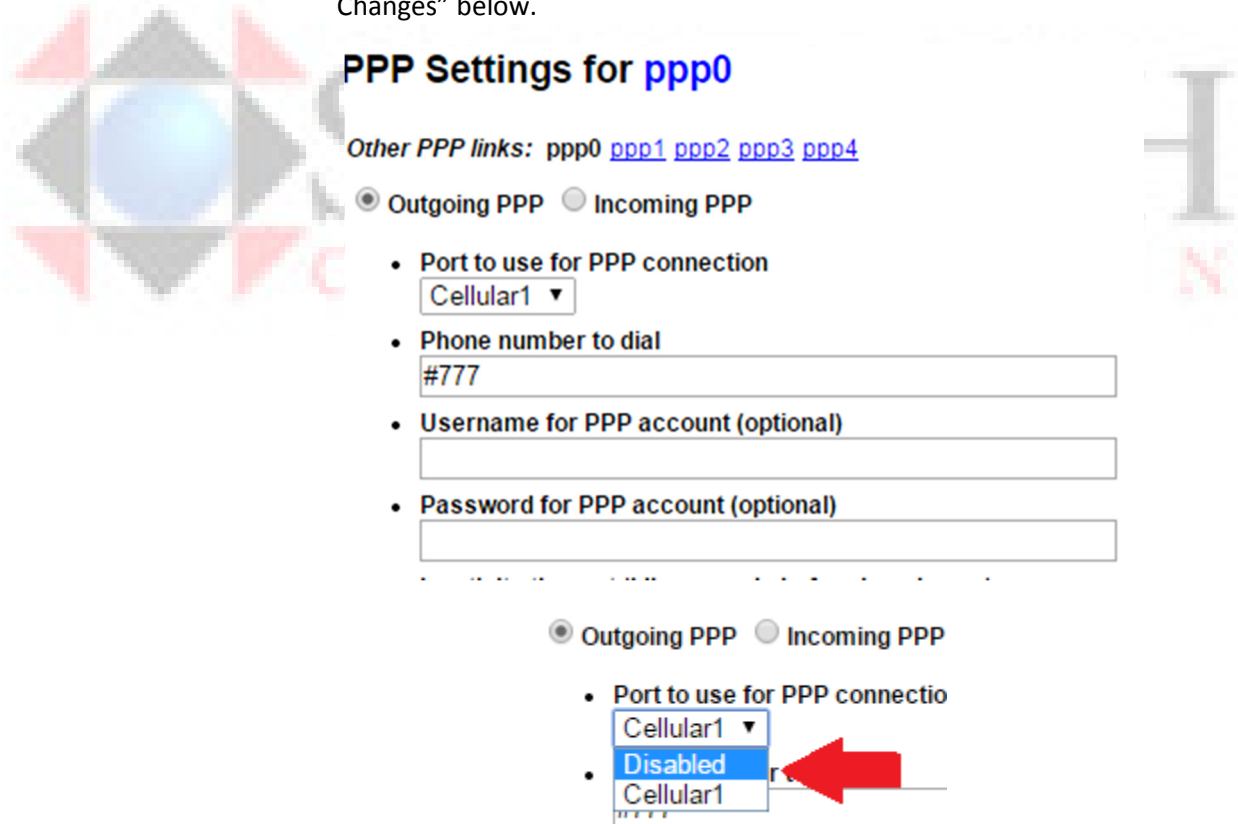
- Once the PRL has been updated, you can try activation or reactivation again.

- **Troubleshooting “bad acks”**

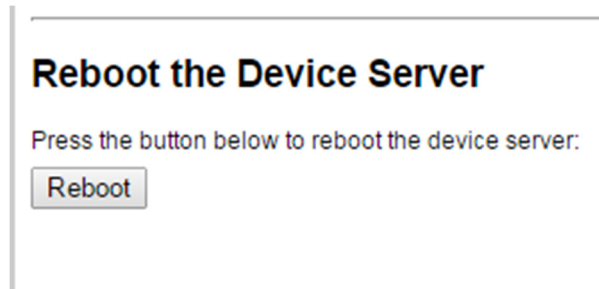
- If you receive a “Bad ack from device” error:

```
===== TASK: UPLOAD PRL file to device. =====  
Uploading file to device...Done with 6592 bytes!  
File length: 6592 bytes.  
Time: 0.00 sec, at 6592000016.64 bytes/sec.  
Waiting for ack from device...Bad ack from device: ? [MSG00?] An error occurred  
(see System Log).  
C:\r4000>
```

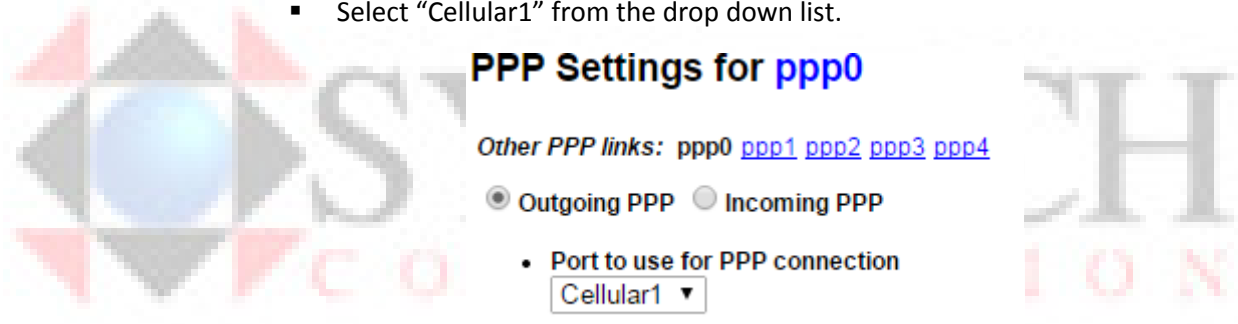
- You may need to temporarily disable PPP before you can update the PRL.
 - From the Systech web interface click on PPP settings on the left.
 - There is a drop down menu at the top labeled “Port to use for PPP connection,” select disabled from the drop down menu and click “Save Changes” below.



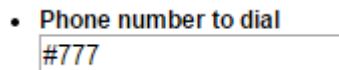
- After you've saved your changes, on the left hand side click on Reset/Reboot then click the reboot button.



- Wait for the Systech unit to boot up and the status light to return to blinking green.
- At this time retry to update the PRL using the r4000 command line utility.
- Once the PRL is updated, you will need to re-enable the PPP interface before attempting to activate or reactivate the module.
- Go back to the web interface and click PPP settings.
- Select "Cellular1" from the drop down list.



- For Phone number to dial enter in #777 then click "save changes."



- You will have to reboot the Systech device again. Click the Reset/Reboot link on the left, then click the Reboot button.